



## Explanation

- 24 Soil Vapor Wells Sampled During Events 2 and 3

## Countours:

1. Represent minimum known areal distribution based on sampling event.
2. Not queried where some horizontal control exists.

—?— Total Volatile Organic Compounds (VOC's) Detected During Events 2 and 3

—?— Carbon Tetrachloride (CCl<sub>4</sub>) Detected During Events 2 and 3

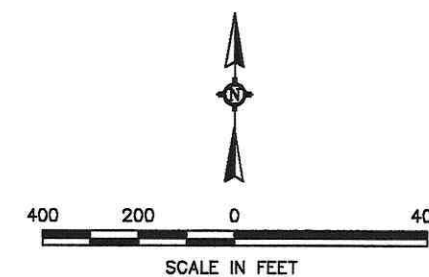
—?— 1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113) Detected During Events 2 and 3

—?— Trichloroethene (TCE) Detected During Events 2 and 3

—?— 1,1-Dichloroethene (1,1-DCE) Detected During Events 2 and 3

/// Concentrations of Total VOC's Exceeding 100 µg/L-Vapor at an Individual Sample Point

/// Concentrations of Carbon Tetrachloride (CCl<sub>4</sub>) Exceeding 100 µg/L-Vapor at an Individual Sample Point



Source: USGS, 7.5 Minute Topographic Map  
Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 4-7  
TOTAL VOCs AND OTHER  
CONSTITUENTS OF POTENTIAL CONCERN,  
EVENTS 2 AND 3  
DECEMBER, 1994 - MARCH, 1995  
Jet Propulsion Laboratory  
Pasadena, California  
FOSTER WHEELER ENVIRONMENTAL  
CORPORATION



● 24 Soil Vapor Wells Sampled During Events 2 and 3

1. Represent minimum known areal distribution based on sampling event.

2. Not queried where some horizontal control exists.

- ?— Total Volatile  
Organic Compounds (VOC's)  
Detected During Events 2 and 3

- ?— Carbon Tetrachloride (CCl<sub>4</sub>)  
Detected During Events 2 and 3

- 1,1,2-Trichloro-1,2,2-Trifluoroethane  
(Freon 113) Detected During  
Events 2 and 3

- ?— Trichloroethene (TCE)  
Detected During Events 2 and 3

- ?— 1,1-Dichloroethene (1,1-DCE)  
Detected During Events 2 and 3

- Concentrations of Total VOC's  
Exceeding 100 µg/L-Vapor at  
an Individual Sample Point

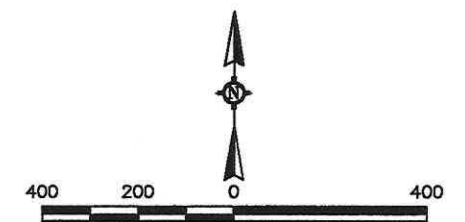
- Concentrations of Carbon  
Tetrachloride (CCl<sub>4</sub>) Exceeding  
100 µg/L—Vapor at an  
Individual Sample Point

- ND Non-Detect at Laboratory Detection Limit of 1.0 µg/L-Vapor.

- P Sample Port Plugged; No Sample Collected

- |   |  |
|---|--|
| W | Sample Port Waterlogged; No Sample Collected |
|---|--|

Highest concentrations from either event are presented.



SCALE IN FEET

Source: USGS, 7.5 Minute Topographic Map  
Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 4-8

**TOTAL VOC  
CONCENTRATIONS AT DEPTH  
EVENTS 2 AND 3**

DECEMBER, 1994 – MARCH, 1995

Jet Propulsion Laboratory  
Pasadena, California



FOSTER WHEELER ENVIRONMENTAL  
CORPORATION





## Explanation

- 24 Soil Vapor Wells Sampled During Events 2 and 3

## Countours:

1. Represent minimum known areal distribution based on sampling event.
2. Not queried where some horizontal control exists.

- ? — Total Volatile Organic Compounds (VOC's) Detected During Events 2 and 3
- ? — Carbon Tetrachloride (CCL<sub>4</sub>) Detected During Events 2 and 3
- ? — 1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113) Detected During Events 2 and 3
- ? — Trichloroethene (TCE) Detected During Events 2 and 3
- ? — 1,1-Dichloroethene (1,1-DCE) Detected During Events 2 and 3

/// Concentrations of Total VOC's Exceeding 100  $\mu\text{g/L}$ -Vapor at an Individual Sample Point

/// Concentrations of Carbon Tetrachloride (CCL<sub>4</sub>) Exceeding 100  $\mu\text{g/L}$ -Vapor at an Individual Sample Point

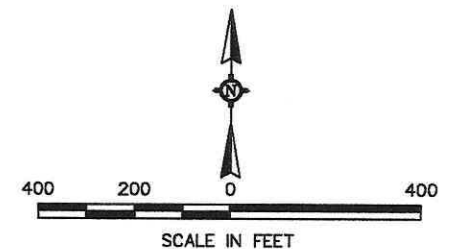
ND Non-Detect at Laboratory Detection Limit of 1.0  $\mu\text{g/L}$ -Vapor.

P Sample Port Plugged; No Sample Collected

W Sample Port Waterlogged; No Sample Collected

## NOTE:

Highest concentrations from either event are presented.



Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 4-9

**CARBON TETRACHLORIDE  
CONCENTRATIONS AT DEPTH,  
EVENTS 2 AND 3  
DECEMBER, 1994 - MARCH, 1995**

Jet Propulsion Laboratory  
Pasadena, California



FOSTER WHEELER ENVIRONMENTAL  
CORPORATION



FIGURE 4-10  
FREON 113 CONCENTRATIONS  
AT DEPTH  
EVENTS 2 AND 3  
DECEMBER, 1994 - MARCH, 1995  
Jet Propulsion Laboratory  
Pasadena, California  
FOSTER WHEELER ENVIRONMENTAL  
CORPORATION



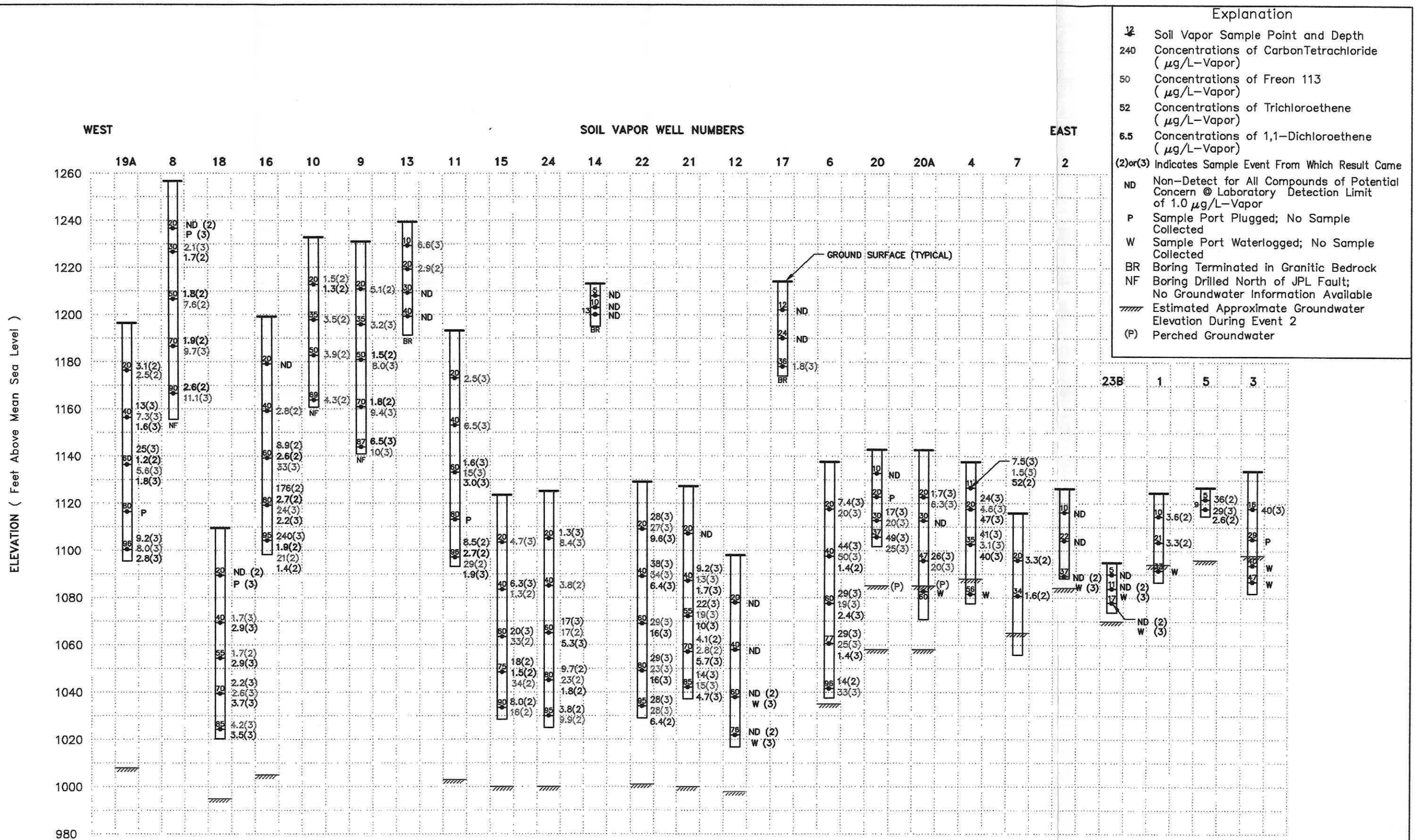
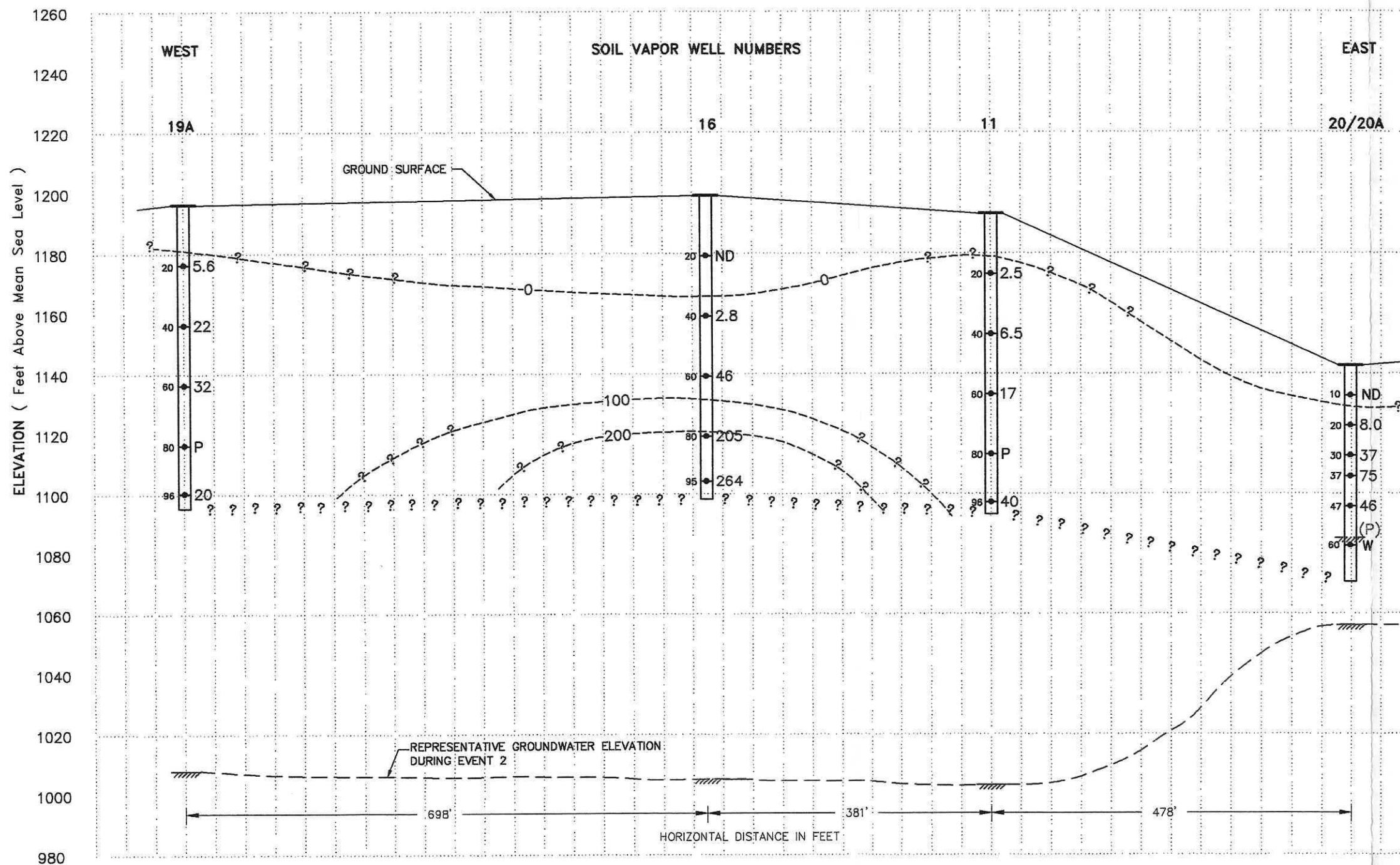


FIGURE 4-11  
 VERTICAL EXTENT OF CONSTITUENTS OF POTENTIAL CONCERN  
 FROM WEST TO EAST ACROSS THE JPL SITE, EVENTS 2 AND 3  
 DECEMBER, 1994 - MARCH, 1995  
 Jet Propulsion Laboratory  
 Pasadena, California  
 FOSTER WHEELER ENVIRONMENTAL  
 CORPORATION



Explanation	
20	Soil Vapor Sample Point and Depth
2.5	Concentrations of Total VOCs ( $\mu\text{g/L}$ -Vapor)
ND	Non-Detect @ Laboratory Detection of 1.0 $\mu\text{g/L}$ -Vapor
P	Sample Port Plugged; No Sample Collected
W	Sample Port Waterlogged; No Sample Collected
////	Estimated Approximate Groundwater Elevation During Events 2 and 3
(P)	Perched Groundwater

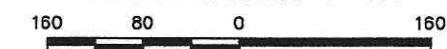
#### Contours:

- Intervals in 100  $\mu\text{g/L}$ -Vapor.
- Queried where spatial control is lacking.

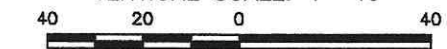
#### Note:

Location of cross-section is shown on Figure 4-8.

HORIZONTAL SCALE: 1"=160'



VERTICAL SCALE: 1"=40'



#### NOTE:

THE CONCENTRATION SUMS PRESENTED INCLUDE THE HIGHEST RESULTS OBTAINED FROM EITHER EVENT.

FIGURE 4-12

#### SECTION A

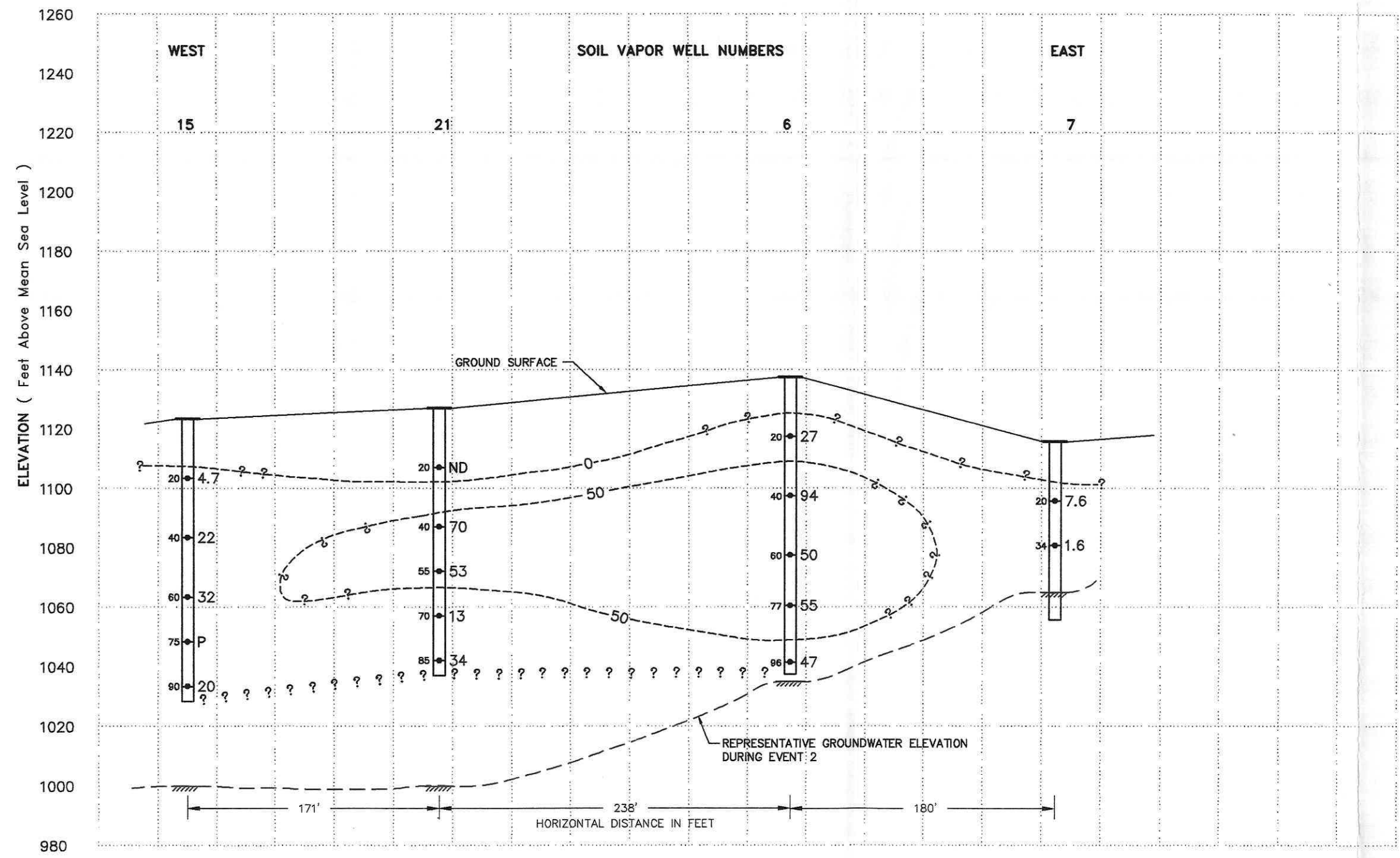
REPRESENTATIVE HORIZONTAL AND VERTICAL DISTRIBUTION OF TOTAL VOCs THROUGH THE AREA OF HIGHEST CONCENTRATION DURING THE TIME INTERVAL FOR EVENTS 2 AND 3  
DECEMBER, 1994-MAY, 1995

Jet Propulsion Laboratory  
Pasadena, California



FOSTER WHEELER ENVIRONMENTAL CORPORATION





Explanation	
20	Soil Vapor Sample Point and Depth
27	Concentrations of Total VOCs ( $\mu\text{g/L}$ -Vapor )
ND	Non-Detect @ Laboratory Detection of 1.0 $\mu\text{g/L}$ -Vapor
P	Sample Port Plugged; No Sample Collected
W	Sample Port Waterlogged; No Sample Collected
////	Estimated Approximate Groundwater Elevation During Events 2 and 3

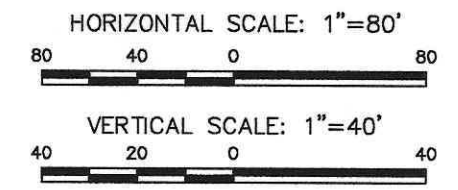
**Contours:**

1. Intervals in 50  $\mu\text{g/L}$ -Vapor.

2. Queried where spatial control is lacking.

**Note:**

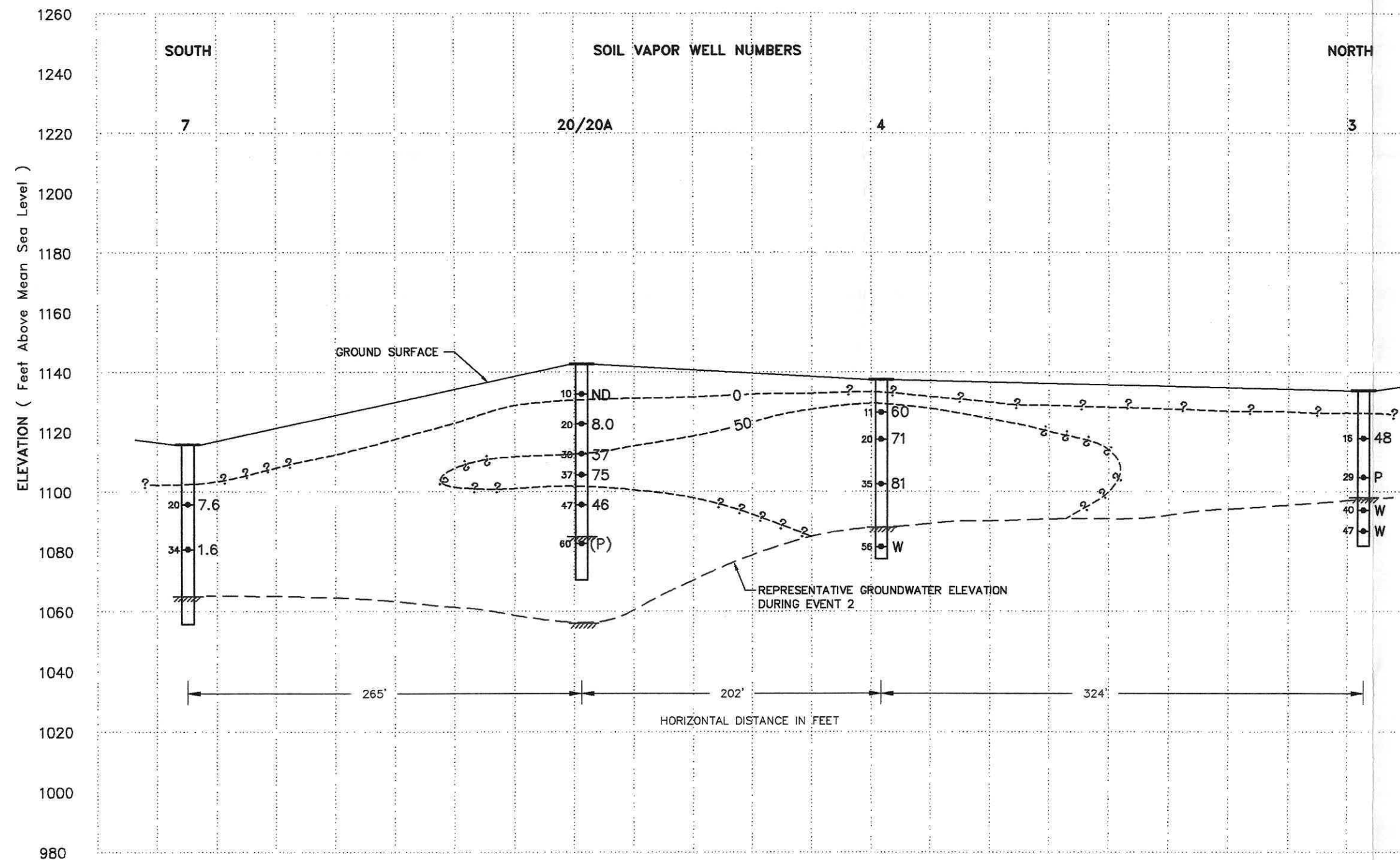
Location of cross-section is shown on Figure 4-8.



**NOTE:**

THE CONCENTRATION SUMS PRESENTED INCLUDE THE HIGHEST RESULTS OBTAINED FROM EITHER EVENT.

FIGURE 4-13
SECTION B
REPRESENTATIVE HORIZONTAL AND VERTICAL DISTRIBUTION OF TOTAL VOCs IN THE SOUTHEASTERN PART OF THE SITE DURING THE TIME INTERVAL FOR EVENTS 2 AND 3
DECEMBER, 1994-MARCH, 1995
Jet Propulsion Laboratory Pasadena, California
FOSTER WHEELER ENVIRONMENTAL CORPORATION



**Explanation**

- 20 → Soil Vapor Sample Point and Depth
- 48 Concentrations of Total VOCs (μg/L-Vapor)
- ND Non-Detect @ Laboratory Detection of 1.0 μg/L-Vapor
- P Sample Port Plugged; No Sample Collected
- W Sample Port Waterlogged; No Sample Collected
- Estimated Approximate Groundwater Elevation During Events 2 and 3
- (P) Perched Groundwater

**Contours:**

- Intervals in 50 μg/L-Vapor.
- Queried where spatial control is lacking.

**Note:**

Location of cross-section is shown on Figure 4-8.

**HORIZONTAL SCALE: 1"=80'**

**VERTICAL SCALE: 1"=40'**

**NOTE:**

THE CONCENTRATION SUMS PRESENTED INCLUDE THE HIGHEST RESULTS OBTAINED FROM EITHER EVENT.

**FIGURE 4-14**

**SECTION C**

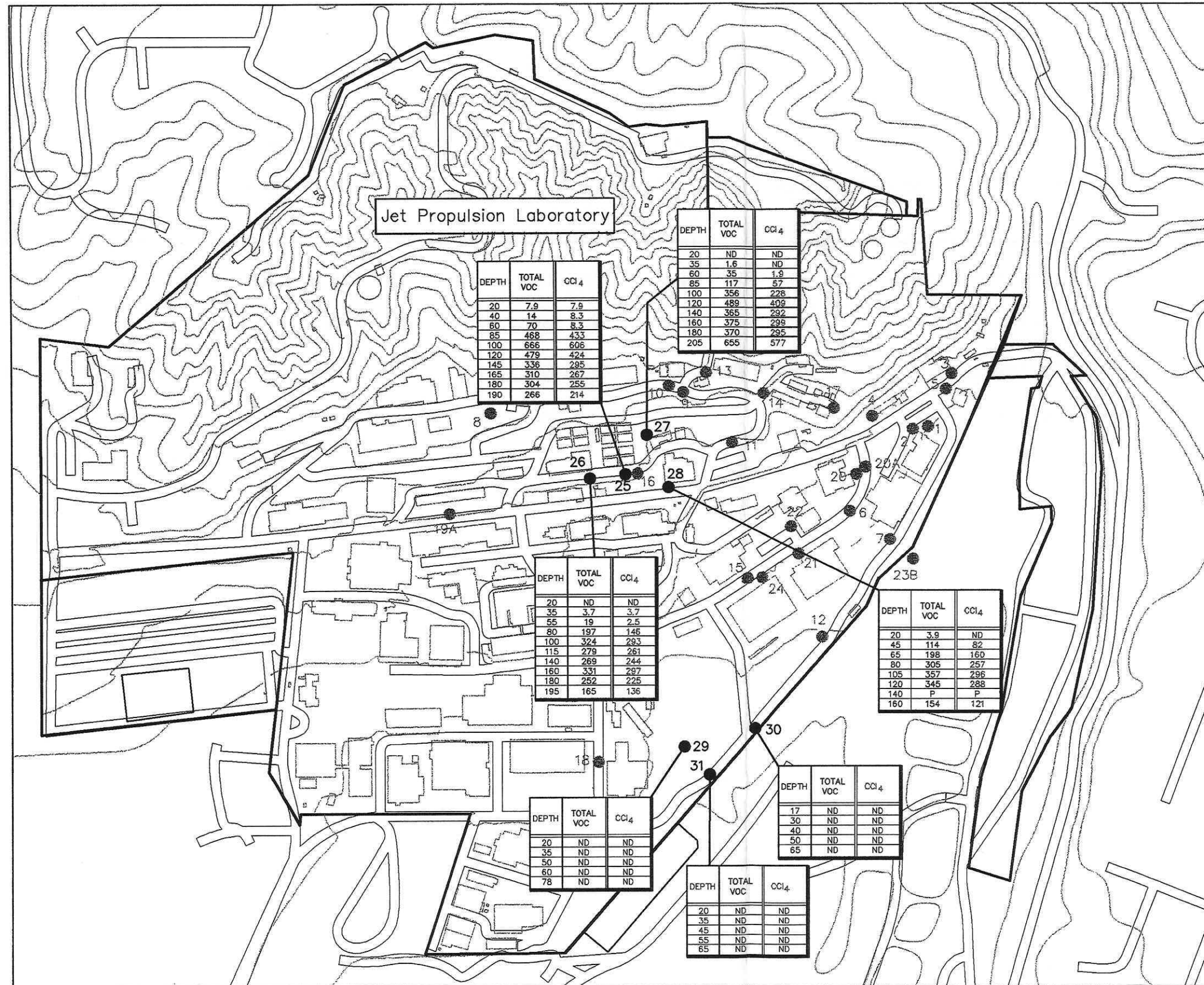
**REPRESENTATIVE HORIZONTAL AND VERTICAL DISTRIBUTION OF TOTAL VOCs IN THE EASTERN EDGE OF THE SITE DURING THE TIME INTERVAL FOR EVENTS 2 AND 3**

**DECEMBER, 1994-MARCH, 1995**

**Jet Propulsion Laboratory**  
**Pasadena, California**

**FOSTER WHEELER ENVIRONMENTAL CORPORATION**





Explanation

- 31 Soil Vapor Wells Sampled During Event 4
- 24 Soil Vapor Wells Not Sampled During Event 4
- CCl<sub>4</sub> Carbon Tetrachloride
- VOC Volatile Organic Compounds
- ND Non-Detect @ Laboratory Detection Limit (1.0 µg/L-Vapor)
- P Sample Port Plugged; No Sample Collected

400 200 0 400

SCALE IN FEET

Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1966, Revised 1988, 1994.

NOTE:  
Concentrations in µg/L-Vapor

FIGURE 4-15  
TOTAL VOC AND CARBON TETRACHLORIDE CONCENTRATIONS AT DEPTH, EVENT 4, JUNE, 1997  
Jet Propulsion Laboratory  
Pasadena, California  
FOSTER WHEELER ENVIRONMENTAL CORPORATION